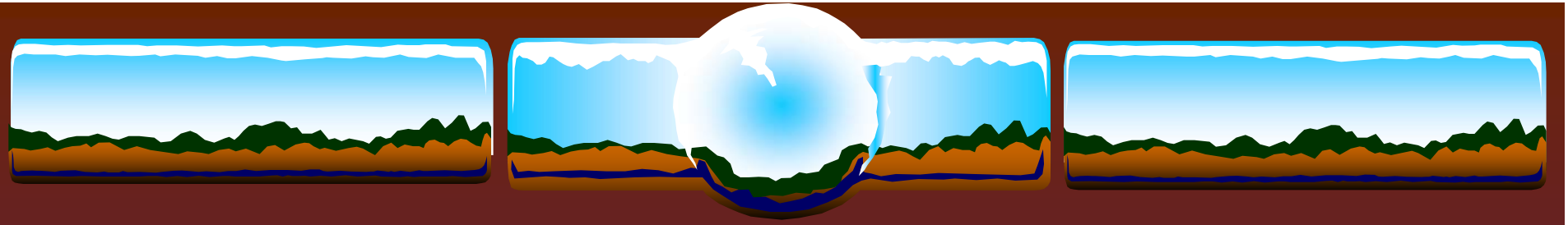


Burlington Northern Fueling Facility - Whitefish

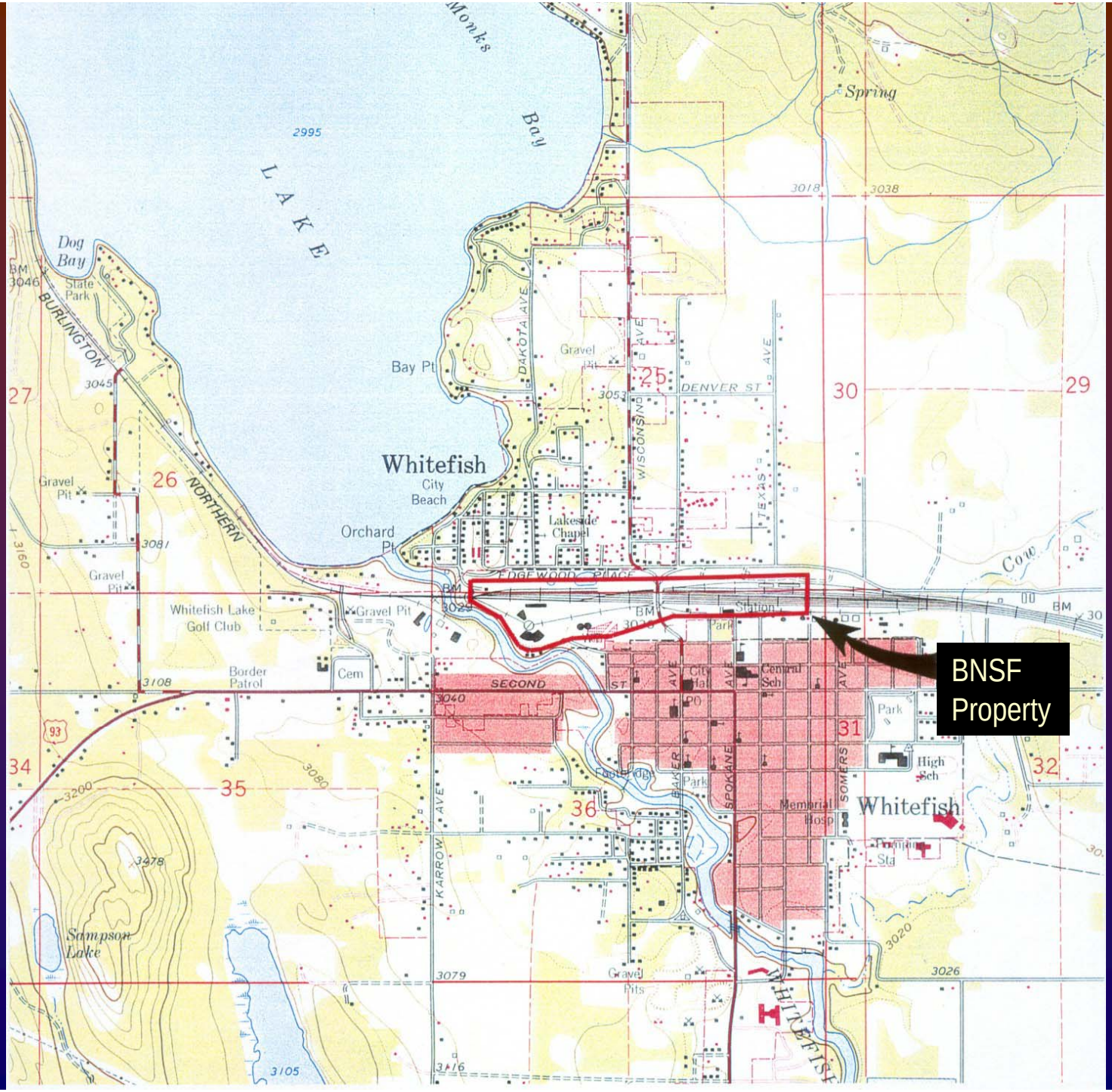
March 21, 2006

6:30pm

City Council Chambers

Meeting Outline

- History
- Facility Boundaries
- Contamination
- What is next?
- Questions

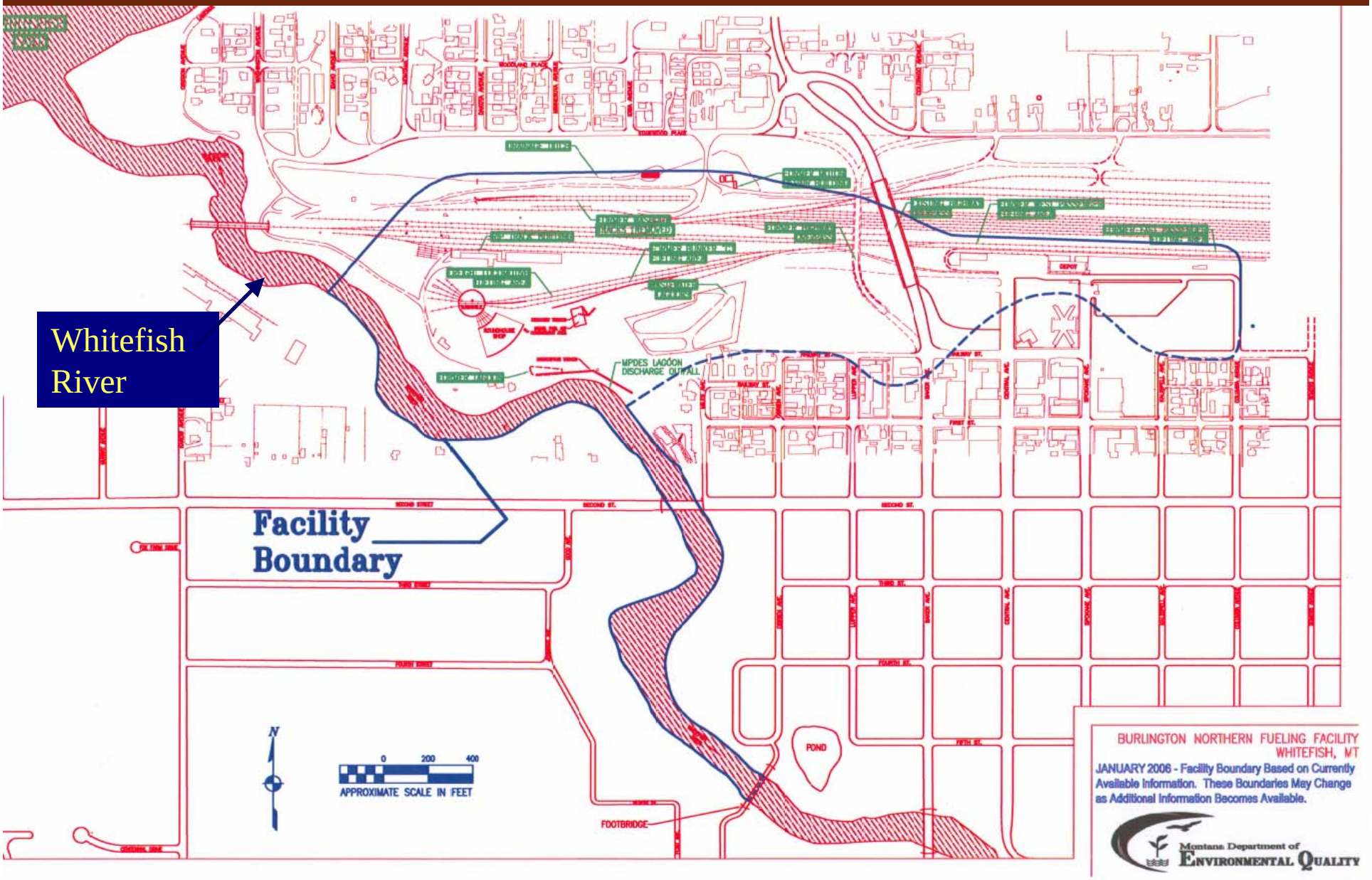

BNSF
Property
Whitefish
Whitefish Lake
Golf Club
Dog
Bay
State
Park
Bay Pt
Orchard
Pt
Gravel
Pit
Gravel Pit
Gravel Pits
Lakeside
Chapel
City
Beach
Border
Patrol
Cem
Spring
Monks
Bay
LAKE
BURLINGTON
NORTHERN
DAKOTA AVE
WISCONSIN AVE
TEXAS AVE
DENVER ST
EDGEWOOD PLACE
SECOND ST
KARROW AVE
BAKER AVE
SPOKANE AVE
SOMERS AVE
Central
Sch
High
Sch
Memorial
Park
Sta
Station
Sampson
Lake
Cow
27
26
25
30
29
34
35
36
31
32
93
2995
3045
3046
3053
3081
3160
3108
3040
3080
3200
3478
3079
3105
3116
3020
3026
3018
3038

History

- Railroad began operating in 1890's
- Roundhouse and other shop buildings constructed in 1903 and 1904
- 1904 – 1958 Locomotive maintenance and repairs were conducted at these shops
- Up to the 1930s, coal, wood and heavy bunker "C" fuel oil were used to fuel the locomotives
- Beginning in 1940s, diesel used to fuel locomotives
  - Freight locomotive fueling area
  - East passenger fueling area
  - West passenger fueling area
- 1958 – major repair activities transferred to other BN facilities

History, cont.

- 1960s – three lagoons installed to treat oily wastewater
- 1973 – Interceptor trench installed
- 1980 - East and West Passenger fueling areas closed due to decrease in passenger rail service; freight locomotive fueling area still in operation
- 1981 – majority of roundhouse shops removed, only minor maintenance currently performed
- 1998 – lagoons upgraded / liner installed



Facility Boundary Map

Contamination

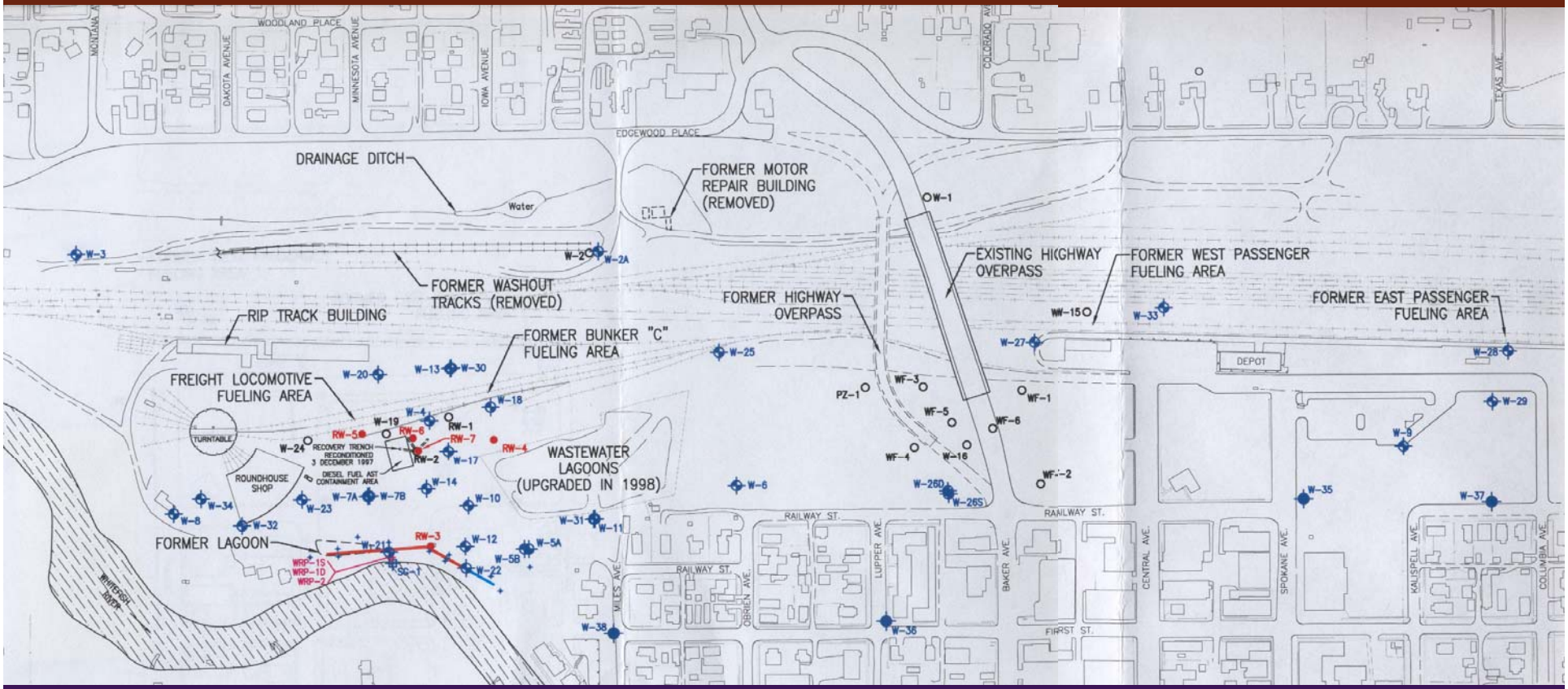
- Soil – Surface and Subsurface
  - Diesel contamination
- Groundwater
  - Diesel contamination
  - Volatile organic compounds
- River Sediment
  - Diesel contamination

Soil Investigations

- Many soil investigations – conducted by BNSF, Montana Department of Transportation (MDT) and third party investigations
- Looked for diesel, gasoline, polycyclic aromatic hydrocarbons (PAHs), metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs)
- Diesel and PAHs main contaminants of concern in soil throughout the facility
- Metals in soil - contaminant of concern west of roundhouse from wheel joint bearings

Interim Soil Cleanup

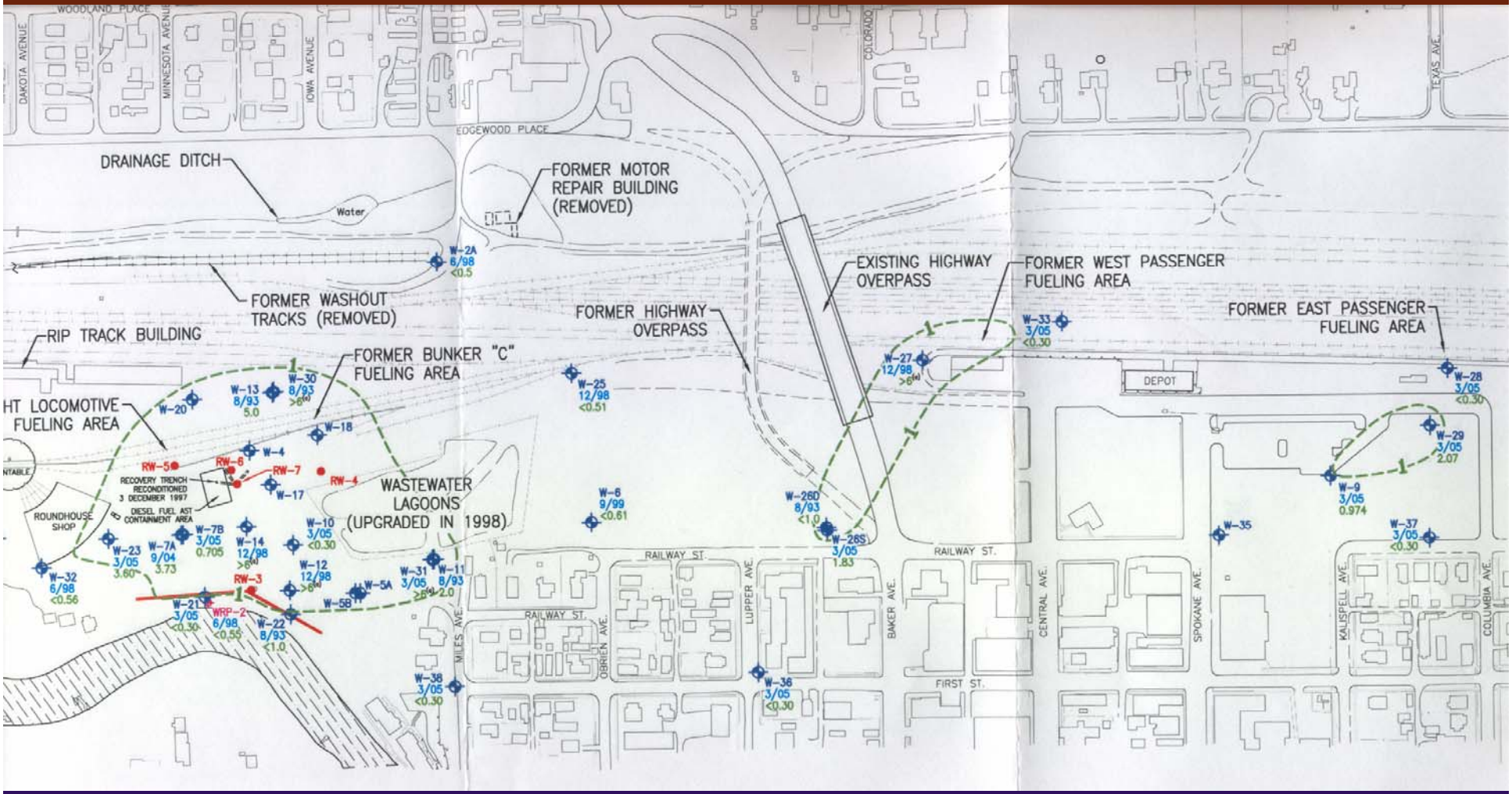
- 1992 – MDT conducted during overpass construction
- 1998 – Lagoon upgrades – excavated diesel contaminated soil under lagoons
- 2005 – Metals contaminated surface soil removed


DRAINAGE DITCH
Water
FORMER MOTOR REPAIR BUILDING (REMOVED)
FORMER WASHOUT TRACKS (REMOVED)
RIP TRACK BUILDING
FORMER BUNKER "C" FUELING AREA
FREIGHT LOCOMOTIVE FUELING AREA
FORMER HIGHWAY OVERPASS
EXISTING HIGHWAY OVERPASS
FORMER WEST PASSENGER FUELING AREA
FORMER EAST PASSENGER FUELING AREA
WASTEWATER LAGOONS (UPGRADED IN 1998)
FORMER LAGOON
ROUNDHOUSE SHOP
TURNTABLE
DEPOT
WOODLAND PLACE
EDGEWOOD PLACE
RAILWAY ST.
FIRST ST.
DAKOTA AVENUE
MINNESOTA AVENUE
IOWA AVENUE
COLORADO AVE.
TEXAS AVE.
MILES AVE.
O'BRIEN AVE.
LUPPER AVE.
BAKER AVE.
CENTRAL AVE.
SPOKANE AVE.
KALISPELL AVE.
COLUMBIA AVE.
WHITEFISH RIVER

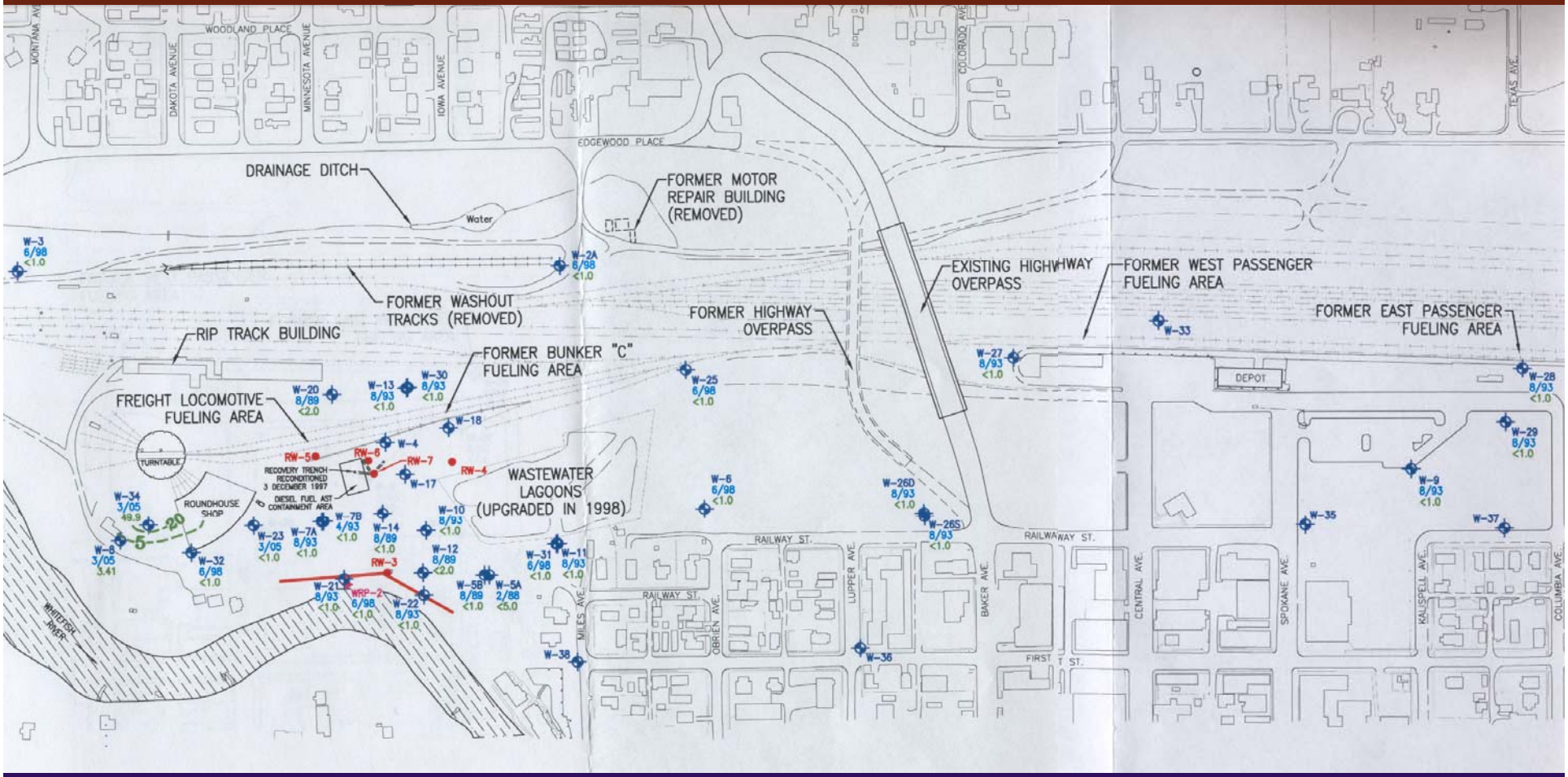
Soils

Groundwater Assessment

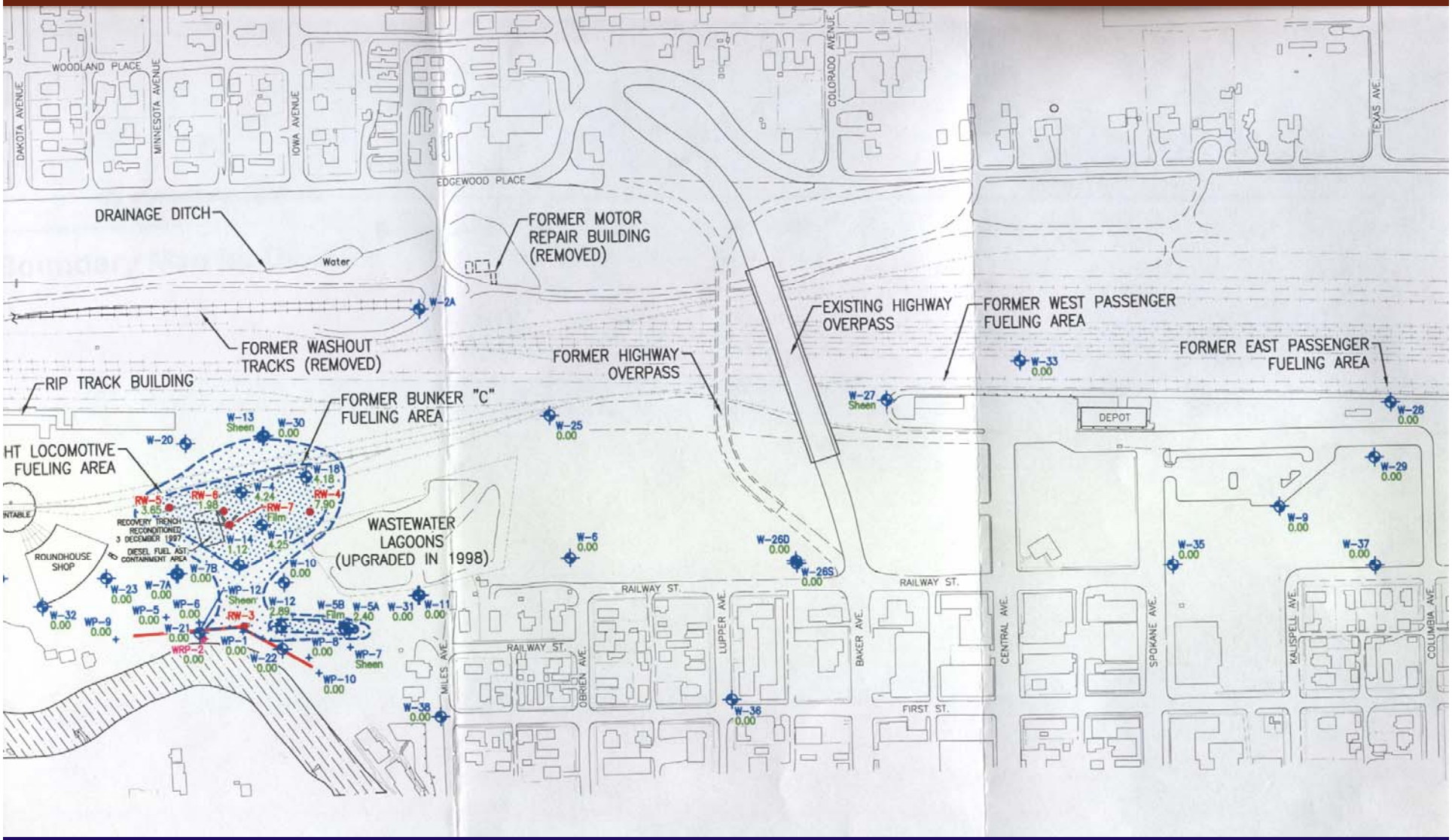
- Groundwater not used for domestic purposes (city water used)
- Diesel contamination
  - Freight Locomotive Fueling Area
  - West Passenger Fueling Area
  - East Passenger Fueling Area
- Free product - Diesel
  - Freight Locomotive Fueling Area
- Volatile organic compounds – trichloroethene (TCE)
  - Roundhouse



Dissolved Diesel in Groundwater



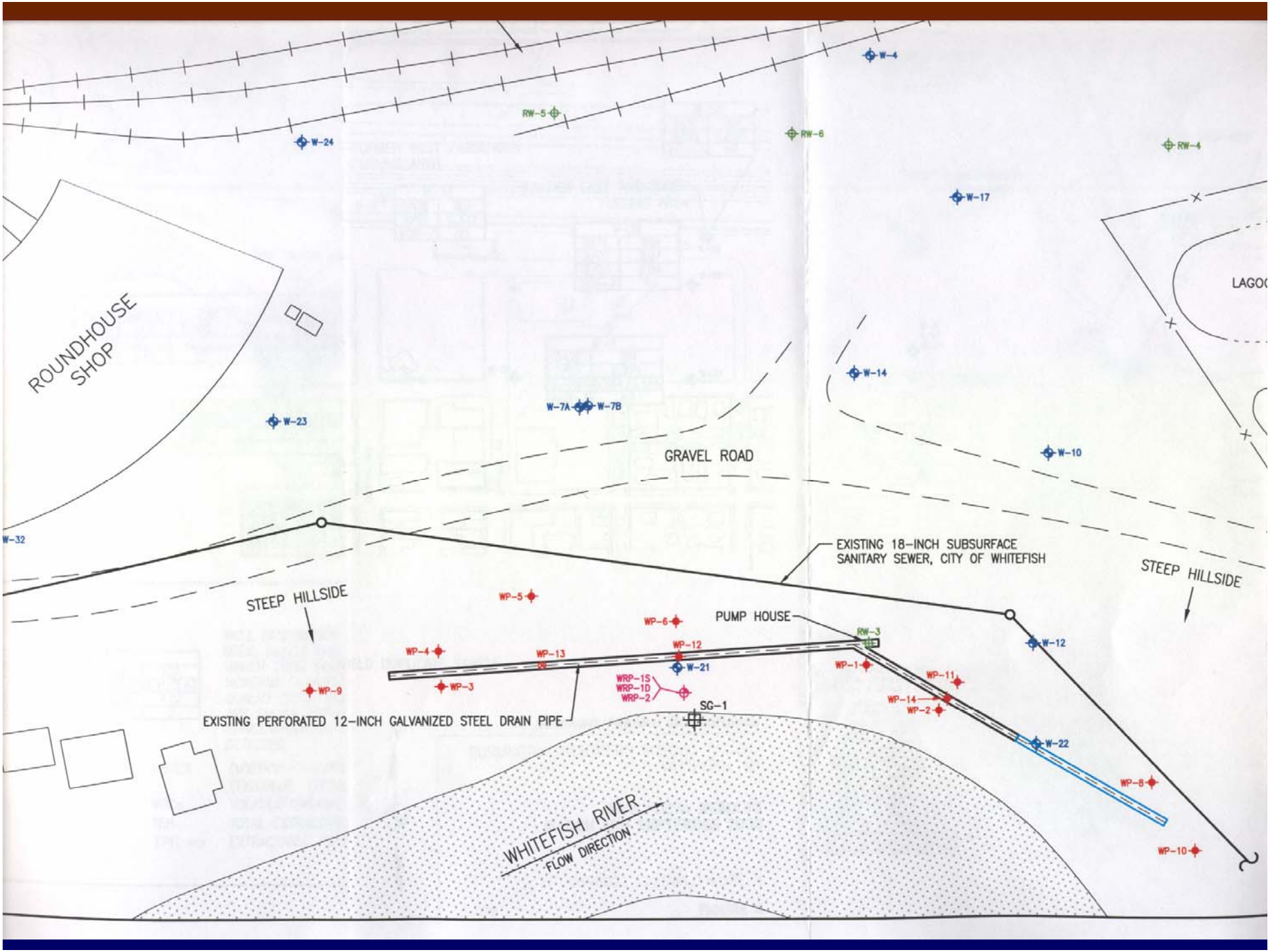
Dissolved Trichloroethene (TCE)



Free Product (Diesel)

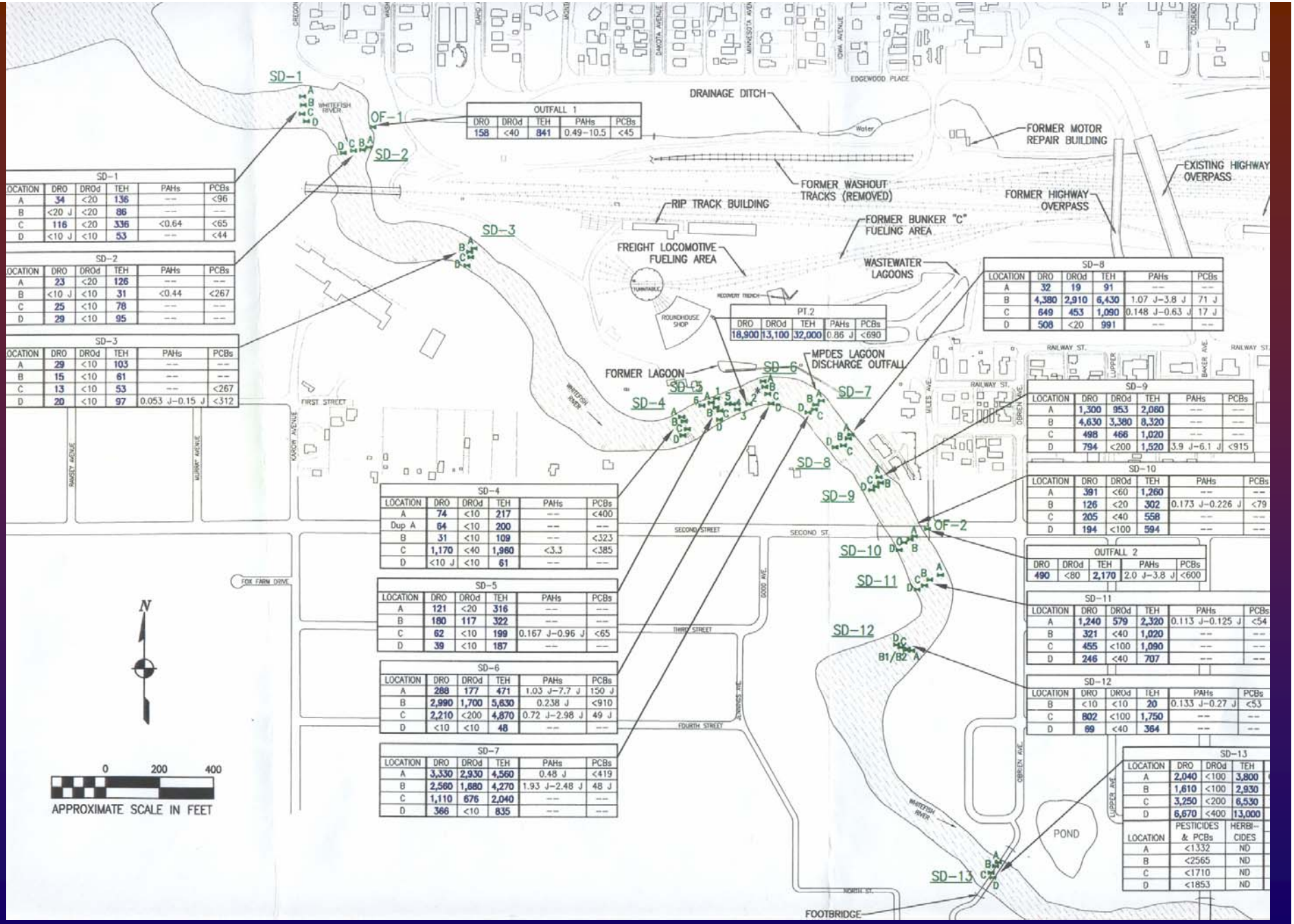
Interim Groundwater Cleanup

- Dissolved groundwater contaminant concentrations reduced through natural attenuation processes
- Diesel product floats on top of groundwater – over 8 feet thick
- Interceptor trench prevents product from reaching the river
- Well RW-3 pumps product out of interceptor trench
- Well RW-7 pumps product from small trench in center of product plume
- Total recovered (approximate) since 1991 is 14,539 gallons.


W-4
RW-5
W-24
RW-6
RW-4
W-17
ROUNDHOUSE SHOP
LAGOO
W-14
W-7A
W-7B
W-23
GRAVEL ROAD
W-10
W-32
EXISTING 18-INCH SUBSURFACE SANITARY SEWER, CITY OF WHITEFISH
STEEP HILLSIDE
STEEP HILLSIDE
WP-5
WP-6
PUMP HOUSE
RW-3
W-12
WP-4
WP-13
WP-12
W-21
WP-1
WP-11
WP-9
WP-3
WRP-1S
WRP-1D
WRP-2
WP-14
WP-2
SG-1
EXISTING PERFORATED 12-INCH GALVANIZED STEEL DRAIN PIPE
W-22
WP-8
WHITEFISH RIVER
FLOW DIRECTION
WP-10

River Sediment Investigations

- River investigated for diesel, VOCs, PAHs, herbicides, PCBs, pesticides, and metals
- Main contaminant of concern: diesel
- Concentrations decrease downriver
- Interceptor trench installed in 1973; extended in 1997; prevents additional contamination from reaching the river



SD-1					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	34	<20	136	--	<96
B	<20 J	<20	86	--	--
C	116	<20	336	<0.64	<65
D	<10 J	<10	53	--	<44

SD-2					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	23	<20	126	--	--
B	<10 J	<10	31	<0.44	<267
C	25	<10	78	--	--
D	29	<10	95	--	--

SD-3					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	29	<10	103	--	--
B	15	<10	61	--	--
C	13	<10	53	--	<267
D	20	<10	97	0.053 J-0.15 J	<312

OUTFALL 1				
DRO	DROd	TEH	PAHs	PCBs
158	<40	841	0.49-10.5	<45

PT.2				
DRO	DROd	TEH	PAHs	PCBs
18,900	13,100	32,000	0.86 J	<690

SD-4					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	74	<10	217	--	<400
Dup A	64	<10	200	--	--
B	31	<10	109	--	<323
C	1,170	<40	1,960	<3.3	<385
D	<10 J	<10	61	--	--

SD-5					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	121	<20	316	--	--
B	180	117	322	--	--
C	62	<10	199	0.167 J-0.96 J	<65
D	39	<10	187	--	--

SD-6					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	288	177	471	1.03 J-7.7 J	150 J
B	2,990	1,700	5,630	0.238 J	<910
C	2,210	<200	4,870	0.72 J-2.98 J	49 J
D	<10	<10	48	--	--

SD-7					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	3,330	2,930	4,560	0.48 J	<419
B	2,560	1,680	4,270	1.93 J-2.48 J	48 J
C	1,110	676	2,040	--	--
D	366	<10	835	--	--

SD-8					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	32	19	91	--	--
B	4,380	2,910	6,430	1.07 J-3.8 J	71 J
C	649	453	1,090	0.148 J-0.63 J	17 J
D	508	<20	991	--	--

SD-9					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	1,300	953	2,080	--	--
B	4,630	3,380	8,320	--	--
C	498	466	1,020	--	--
D	794	<200	1,520	3.9 J-6.1 J	<915

SD-10					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	391	<60	1,260	--	--
B	126	<20	302	0.173 J-0.226 J	<79
C	205	<40	558	--	--
D	194	<100	594	--	--

OUTFALL 2				
DRO	DROd	TEH	PAHs	PCBs
490	<80	2,170	2.0 J-3.8 J	<600

SD-11					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	1,240	579	2,320	0.113 J-0.125 J	<54
B	321	<40	1,020	--	--
C	455	<100	1,090	--	--
D	246	<40	707	--	--

SD-12					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
B	<10	<10	20	0.133 J-0.27 J	<53
C	802	<100	1,750	--	--
D	69	<40	364	--	--

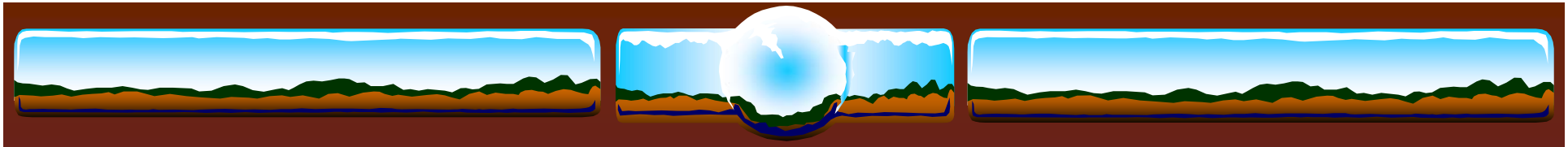
SD-13					
LOCATION	DRO	DROd	TEH	PAHs	PCBs
A	2,040	<100	3,800		
B	1,610	<100	2,930		
C	3,250	<200	6,530		
D	6,670	<400	13,000		

LOCATION	PESTICIDES & PCBs	HERBICIDES
A	<1332	ND
B	<2565	ND
C	<1710	ND
D	<1853	ND

River Sediment

What is next?

- Upland (Railyard Area)
  - Expanded Product Recovery Work
  - Finalize Remedial Investigation Report
  - Begin Risk Assessment
  - Conduct additional investigations as necessary
- River
  - Comment on and finalize Supplemental RI and Ecological Risk Assessment for River
  - Feasibility study



Contact Information

Kelly Schmitt
Montana Department of Environmental Quality
Remediation Division
P.O. Box 200901
Helena, MT 59620-0901

406-841-5070
1-800-246-8198
kschmitt@mt.gov
Fax: 406-841-5050